

PETITION

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Your Petitioners, Gene Stauffer and Stephen Goecke, each citizens of the United States of America and residents of the State of Nebraska, whose residence and mailing address for Gene Stauffer is 5013 East Platteview Drive, P.O. Box 126, Cedar Creek, Nebraska 68016 and for Stephen Goecke is 5011 East Platteview Drive, P.O. Box 137, Cedar Creek, Nebraska 68016, pray that Letters Patent Protection be granted to them for a

DUAL OPTION TAPE MEASURE

as set forth in the following specification:

Cross-Reference to Related Provisional Application

This application claims priority to the filing date of related provisional patent application serial No. 60/492,623 filed August 5, 2003.

Background of the Invention

1. Technical Field

The present invention relates to tape measure devices and, more particularly, to a dual option tape measure which includes a body in which a flexible metal or plastic measuring tape is wound, a forward tongue section connected to, extending forwardly from and pivotably mounted on the outer end of the measuring tape, a rear tail section mounted on the rear of the tape measure body which is movable between extended and retracted positions, and two distinct sets of measurement numbers printed on the flexible measuring tape for instantly providing internal or external measurements,

1 depending on the measurement reading desired.

3 **2. Description of the Prior Art**

4 In the construction industry, there are numerous situations
5 where internal measurements of openings, spaces, and objects must
6 be made, and these measurements must be accurate to ensure that the
7 proper fitting of materials is permitted. For example, the
8 replacement window industry involves the replacement of older,
9 energy-inefficient windows with new, energy-efficient windows. In
10 order to properly seat the replacement window within the window
11 opening in the wall, extremely accurate measurements must be made,
12 with the average tolerance being less than one quarter of one inch.
13 If the measurement being made is off by even a little, the window
14 which is manufactured to fit the window opening will not fit
15 correctly and the replacement window must then be scrapped or
16 discarded. The difficulty in measuring the window opening lies in
17 the recesses which must be measured and the internal dimensions
18 which must be determined in order to ensure a proper fit for the
19 replacement window. Presently available measuring tapes do not
20 provide accurate and easy-to-use measurements of the internal
21 dimensions of the window opening.

22 Furthermore, even those devices found in the prior art which
23 intend to solve this problem, such as Mosman, U.S. Patent No.
24 4,977,684, do not fully address the issue as the resulting
25 measurements must be added together, introducing additional
26 potential sources of error. There is therefore a need for an easy-
27 to-use measuring device which will permit external and internal
28 measurements with a high degree of accuracy.

1 Therefore, an object of the present invention is to provide an
2 improved dual option tape measure.

3 Another object of the present invention is to provide an
4 improved dual option tape measure which may be quickly and easily
5 used to measure both internal and external measurements of objects
6 and openings.

7 Another object of the present invention is to provide an
8 improved dual option tape measure which includes a movably mounted
9 rear tail and a forward tongue mounted on the end of the measuring
10 tape for measuring internal dimensions.

11 Another object of the present invention is to provide an
12 improved dual option tape measure which includes two separate and
13 distinct sets of measurements displayed on the measuring tape, the
14 outer measurement set displaying the total extended distance of the
15 measuring tape from the outer end to the tape outlet opening and
16 the inner measurement set displaying the total distance from the
17 outer end of the rear tail to the outer end of the forward tongue
18 such that outer and inner measurements are simultaneously displayed
19 on the measuring tape.

20 Another object of the present invention is to provide an
21 improved dual option tape measure which will generally eliminate
22 the need for two separate measuring devices to be used for inner
23 and outer measurements.

24 Finally, an object of the present invention is to provide a
25 dual option tape measure which is relatively simple and inexpensive
26 to construct and is safe, efficient and durable in use.

Summary of the Invention

The present invention provides a linear measuring device including a tape housing having an outer surface, a tape outlet opening and inner volume and a generally semi-flexible measuring tape housed within the tape housing in a generally spiral configuration with an outer end extendable through the tape outlet opening. An extendable generally flat planar rear tail having an outer end and an inner end is movably mounted on the tape housing generally opposite the tape outlet opening, the rear tail operative to project outwards from the tape housing and a generally flat planar forward tongue is mounted on and extends forwards from the outer end of the measuring tape. Finally, at least two sets of measurements are displayed on the measuring tape, an outer measurement of the two sets of measurements displaying the total extended distance of the measuring tape from the outer end of the measuring tape to the tape outlet opening and an inner measurement of the two sets of measurements displaying the total distance between the outer end of the rear tail and the outer end of the forward tongue such that outer and inner measurements are simultaneously displayed on the measuring tape.

It is thus seen that the present invention provides a substantial improvement over those inventions found in the prior art. For example, the design of the present invention permits the user to quickly and easily measure both external measurements and internal measurements and merely read the corresponding distance directly off of the measuring tape, without having to add separate measurements together. Furthermore, as the present invention is relatively simple in design and manufacture, the cost for each unit

1 is kept relatively low which will enable the use of the present
2 invention by many different types of users. Finally, because the
3 present invention can be used for both internal and external
4 measurements of objects and openings, the usefulness of the
5 invention over those devices found in the prior art is far
6 superior. The present invention thus provides a substantial
7 improvement over those devices found in the prior art.

1 **Brief Description of the Drawings**

2 Figure 1 is a perspective view of the dual option tape measure
3 of the present invention;

4 Figure 2 is a side elevational view of the present invention
5 measuring an internal measurement;

6 Figure 3 is a side elevational view of the present invention
7 measuring an external measurement;

8 Figures 4a and 4b are, respectively, side elevational and
9 perspective views of the dual option tape measure of the present
10 invention showing the alternative embodiment with the fold-down
11 measuring tail section;

12 Figures 5a and 5b are, respectively, side elevational and
13 perspective views of the dual option tape measure of the present
14 invention showing the alternative embodiment with the retractable
15 measuring tail section; and

16 Figures 6a and 6b are, respectively, perspective and side
17 elevational views of the dual option tape measure of the present
18 invention showing the alternative embodiment with the hingedly
19 mounted forward tongue section.

Description of the Preferred Embodiment

The dual option tape measure **10** of the present invention is shown best in Figures **1-4b** as including a rigid plastic or metal body **12** which encloses a generally flexible metal or plastic measuring tape **14**. The body **12**, measuring tape **14**, lock mechanism **16**, and other elements which enable the extension and retraction of measuring tape **14** from body **12** generally function in the same manner as those measuring tapes found in the prior art and therefore further discussion of the specific details of the operation of the extension, retraction, and locking elements of the measuring tape **14** of the dual option tape measure **10** of the present invention will not be undertaken at this time. Furthermore, it should be noted that numerous variations in the operating mechanisms for measuring tape devices are known in the prior art and are incorporated herein and made a part of this disclosure.

The key inventive features of the present invention are described as follows and are shown best in Figures **1-5b**. Mounted on the rear of body **12** is measuring tail section **20** which, in the preferred embodiment, would have a length of approximately one to three inches, a width approximately equal to the width of measuring tape **14**, and would be mounted to the rear of body **12** via a hinge mechanism **22** or the like. In the preferred embodiment, the hinge mechanism **22** would further include a pivot stop **24** which prevents the measuring tail section **20** from being pivoted beyond a position generally parallel with the extended section of measuring tape **14**, as shown best in Figure **2**. Of course, it should be noted that, although the measuring tail section **20** of the present invention is described as being connected via a hinge mechanism **22** or the like,

1 the measuring tail section **20** may be mounted on the body **12** in many
2 other ways so long as the measuring tail section **20** may be moved
3 from a retracted position which is unobtrusive and does not
4 interfere with operation of the dual option tape measure **10** to the
5 extended position shown best in Figure **2** where the measuring tail
6 section **20** extends perpendicularly outwards from body **12**. For
7 example, the measuring tail section **20** may be slidably mounted
8 within the body **12**, as shown in Figures **5a** and **5b**, such that the
9 measuring tail section **20** may be moved from a recessed position
10 within the body **12** to the extended position extending generally
11 perpendicularly from the body **12**. Of course, various other types
12 of mounting arrangements may be used with the measuring tail
13 section **20** of the present invention so long as the intended
14 functionality is neither degraded nor destroyed.

15 In the preferred embodiment, measuring tail section **20** would
16 include tail section measurement markings **26** and furthermore, the
17 measuring tail section **20** would be constructed as a generally flat,
18 rigid plate of metal or plastic having a relatively narrow
19 thickness of approximately 1/32nd to 1/8th of an inch. This narrow
20 thickness permits the measuring tail section **20** to extend into
21 recesses and cavities to permit measurement of the depth of the
22 recess or cavity which is read via the tail measurement markings **26**
23 and furthermore permits use of the measuring tail section **20** in
24 cooperation with the measuring tape **14** as will be described later
25 in this disclosure.

26 Mounted on the forward end of measuring tape **14** is a measuring
27 tongue section **30** which is preferably constructed of materials
28 similar to that used in construction of measuring tail section **20**

1 and would have a length of approximately one to two inches and a
2 width approximately equal to the width of measuring tape **14**.
3 Measuring tongue section **30** would further include tongue
4 measurement markings **32** which display the distance from the forward
5 end of measuring tongue section **30** extending rearwards towards the
6 body **12** of dual option tape measure **10**, as shown best in Figure **3**.
7 Mounted on and extending downwards from the connection of measuring
8 tongue section **30** to measuring tape **14** is a measuring tape hook **40**
9 which depends downwards from measuring tape **14** at the forward end
10 thereof and serves the dual purpose of permitting the end of the
11 measuring tape **14** to be hooked onto an object for measurement
12 thereof and also prevents the measuring tape **14** from retracting
13 into the body **12** of dual option tape measure **10** beyond a certain
14 designated point. In fact, in the preferred embodiment of the
15 present invention, the measuring tape hook **40** will butt up against
16 the lower wall of body **12** at a point rearwards of the forward
17 section of body **12** in order to permit the measuring tongue section
18 **30** to be recessed within and protected by the body **12**, as shown
19 best in Figure **1**.

20 Alternatively, as shown in Figures **6a** and **6b**, the measuring
21 tongue section **30** is connected to the forward end of the measuring
22 tape **14** by a hinged connection **34**, as shown best in Figure **3**, which
23 permits the measuring tongue section **30** to be folded upwards
24 against the body **12** when the measuring tongue section **30** is not
25 being used. Also, the measuring tongue section **30** can be rotated
26 completely around to contact the top of the measuring tape **14** thus
27 removing the measuring tongue section **30** from interference with use
28 of the measuring tape **14** itself. This variation of the connection

1 of the measuring tongue section **30** to the measuring tape **14** also
2 eliminates the need for the lower wall of body **12** to be modified to
3 accommodate the retraction of the measuring tape hook **40** rearwards
4 of the forward edge of body **12** to protect the measuring tongue
5 section **30**, as the measuring tongue section **30** may simply be
6 pivoted 180° to rest against the measuring tape **14**, then retracted
7 within the body **12** as shown in Figure **6b** to prevent the measuring
8 tongue section **30** from being damaged. Of course, other connections
9 of the measuring tongue section **30** to the forward end of the
10 measuring tape **14** are possible, and variations on the connection
11 should be understood to be a part of this invention.

12 As was stated previously, the vast majority of measuring tapes
13 **14** include only a single series of numbers which provide the
14 distance from the forward end of measuring tape **14** rearwards to the
15 location being measured. While this measurement display is
16 acceptable for external measurements, i.e. those in which the
17 forward end of the measuring tape **14**, specifically measuring tape
18 hook **40**, is clipped onto an object and the width, height, or length
19 of the object is then measured by the length of the measuring tape
20 **14** such as is shown in Figure **3**, it is clear that internal
21 measurements must be either estimated or the measuring tape **14** must
22 be folded into the desired location, thus potentially damaging the
23 measuring tape **14** and reducing the usable lifespan of the measuring
24 device. The present invention solves the problem of internal
25 measurements by providing the measuring tail section **20** and
26 measuring tongue section **30** which may be extended into the internal
27 measurement area to be measured and then, perhaps most importantly,
28 providing the independent internal measurement side of the

1 measuring tape **14** for reading the total internal measurement, as
2 shown best in Figure 2. To elaborate, printed on measuring tape **14**
3 are two sets of measurements, the external measurement side **44** and
4 the internal measurement side **46**. External measurement side **44**
5 includes a series of measurement numbers generally familiar to
6 users of measuring tape devices which measure the distance from the
7 measuring tape hook **40** rearwards towards the body **12** of the tape
8 measure device. The internal measurement side **46**, however,
9 provides a measurement reading which incorporates the length of
10 measuring tongue section **30**, plus the length of measuring tail
11 section **20**, and also includes the length of body **12**, and, as all of
12 the numbers are added together and printed as the internal
13 measurement side **46** figures, the measurement reading shown on
14 internal measurement side **46** provides a simple, quick, and
15 effective measurement of the internal dimensions of the recess,
16 object, or area being measured. Prior art devices universally
17 require the user of the device to add the various elements (body of
18 the tape measure and tongue and/or tail sections) together and then
19 add the distance that the measuring tape **14** is extended to
20 determine the internal measurement. Given the difficulty of adding
21 fractional distances and the speed with which many measurements
22 must be made, this requirement is asking quite a bit of the user of
23 those prior art devices. The dual option tape measure **10** of the
24 present invention eliminates the need for those calculations to be
25 made by providing a simple, quick, and effective internal
26 measurement reading taken directly from the internal measurement
27 side **46** of measuring tape **14**.

28 It is to be understood that numerous additions, modifications,

1 and substitutions may be made to the dual option tape measure **10** of
2 the present invention which fall within the intended broad scope of
3 the above description. For example, the size, shape, and
4 construction materials used in connection with the dual option tape
5 measure **10** may be modified or changed so long as the intended
6 functionality is neither degraded nor destroyed. Also, the
7 specific lengths of the measuring tongue section **30** and measuring
8 tail section **20** may be modified or changed depending on the
9 intended use of the dual option tape measure **10** of the present
10 invention, as well as the connection of the measuring tongue
11 section **30** and measuring tail section **20** to the measuring tape **14**
12 and body **12**, any of which are made a part of this disclosure.
13 Finally, the size and shape of the measuring tongue section **30** and
14 measuring tail section **20** may be modified or changed depending upon
15 the desired uses of the present invention, and likewise the
16 external measurement side **44** and internal measurement side **46** would
17 include appropriate measurement markings dependent on the overall
18 dimensions of the measuring tail section **20**, measuring tongue
19 section **30** and body **12**.

20 There has therefore been shown and described a dual option
21 tape measure **10** which accomplishes at least all of its intended
22 objectives.